



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

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San Francisco, CA 94105-3901

AUG 27 2015

**OFFICE OF THE
REGIONAL ADMINISTRATOR**

Carrie Bowen, Director
Department of Transportation, District 7
100 S. Main Street, MS-16A
Los Angeles, California 90012

Subject: EPA Comments on the Draft Environmental Impact Statement for the SR 710 North Study,
Los Angeles County, California (CEQ #20150061)

Dear Ms. Bowen:

The Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. The California Department of Transportation (Caltrans) granted EPA an extension until August 28, 2015 to submit comments on this document. Our detailed comments are enclosed. EPA appreciates Caltrans' consideration of transit and tunnel alternatives that seek to reduce the adverse air quality and health impacts that additional lane capacity may create. Our review of this project has identified missing information that is needed to demonstrate that the project can meet this goal. EPA believes that transit options in conjunction with regionwide zero- and near-zero emissions corridors, can collectively contribute to long term strategies for improved air quality in the South Coast Air Basin, which has some of the worst air quality in the nation. Capturing and controlling roadway emissions through tunneling and ventilation technology may also reduce some of the project's impact.

Freeway Tunnel Alternative

The proposed ventilation system with air scrubbers has the potential to substantially mitigate operational air quality impacts from the Freeway Tunnel Alternative. However, the Draft EIS does not fully evaluate whether the project alternatives could cause or contribute to localized National Ambient Air Quality Standard (NAAQS) exceedances in the project area, such as near the entrances to the tunnel or in the vicinity of the SR 710/I-10 and I-210/SR 134 interchanges. The additional materials provided by Caltrans to EPA during our review of the Draft EIS supported the need for refined analysis and disclosure to the public of impacts in anticipated hotspot locations, as well as the potential need for Freeway Tunnel Alternative design changes to eliminate identified impacts.

For these reasons, and because the project area's existing air quality is so poor, we have rated the Freeway Tunnel Alternative as "3"- *Inadequate Information*, and recommend preparation of a focused Supplemental Draft EIS, to 1) analyze whether or not the project will contribute to NAAQS exceedances, 2) demonstrate how the tunnel design and emissions controls will reduce and capture emissions to the highest extent possible, and 3) commit to mitigation to reduce remaining air quality impacts. We also provide several recommendations to further analyze and disclose impacts related to tunneling, including impacts from construction and haul routes. These issues are common to all design options that include tunneling.

EPA appreciates Caltrans' responsiveness to EPA through interagency coordination during the review period of this Draft EIS and we encourage continued coordination to further address the issues raised in this letter. We note that preliminary information shared with EPA during interagency coordination indicates that the Freeway Tunnel Alternative may impact the PM_{2.5} NAAQS, and as a result, face conformity challenges. We understand that Caltrans intends to demonstrate that the preferred action meets the Clean Air Act requirements of EPA's transportation conformity regulations prior to publication of a Final EIS for this project and we encourage Caltrans to continue working on this issue and consider including a conformity determination in a Supplemental Draft EIS.

Light Rail Transit (LRT) Alternative

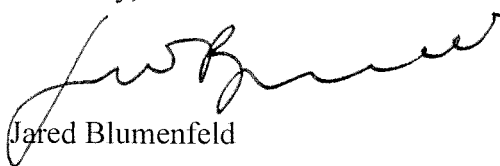
We commend Caltrans and Metro on the inclusion of transit alternatives that could address some of the traffic issues in the project area, as well as reduce emissions from single occupant vehicles. However, we have concerns with potential community impacts from the above-ground portions of the Light Rail Transit Alternative, including disruption of community cohesion and the number of displaced businesses. In light of these issues, the enclosed detailed comments recommend including a more robust discussion of the transit alternatives that were considered, but rejected, from further analysis in the Draft EIS. As noted above, we also provide several recommendations to further analyze and disclose impacts related to tunneling, including impacts from construction and haul routes. We have rated the Light Rail Transit (LRT) Alternative as EC-2, *Environmental Concerns, Insufficient Information*.

Transportation System Management/Transportation Demand Management (TSM/TDM) and Bus Rapid Transit (BRT) Alternatives

EPA provides no further comments on the Transportation System Management/Transportation Demand Management (TSM/TDM) and Bus Rapid Transit (BRT) Alternatives and provides a rating of LO, *Lack of Objections* for these alternatives.

We appreciate the opportunity to review this Draft EIS. When the Supplemental Draft EIS and/or Final EIS is released for public review, please send one hard copy and one electronic copy to the address above (mail code: ENF-4-2). If you have any questions, please contact Carolyn Mulvihill, the lead reviewer for this project, at 415-947-3554 or mulvihill.carolyn@epa.gov.

Sincerely,



Jared Blumenfeld

Enclosures:

Summary of EPA Rating Definitions
EPA's Detailed Comments

cc via email: Malcolm Dougherty, Caltrans
Ron Kosinski, Caltrans
Brenda Powell-Jones, Caltrans
Vince Mammano, FHWA
Bryan Pennington, Metro
Dr. Barry Wallerstein, South Coast Air Quality Management District
Susan Nakamura, South Coast Air Quality Management District
Kurt Karperos, California Air Resources Board
LB Nye, Los Angeles Regional Water Quality Control Board
Hasan Ikhrata, Southern California Association of Governments
Dr. Paul Simon, Los Angeles County Department of Public Health

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

EPA provides the following comments and recommendations for consideration as Caltrans finalizes the environmental review process for this project.

I. Freeway Tunnel Alternative

II. Light Rail Alternative

III. Other Comments

I. Freeway Tunnel Alternative

Demonstrating Tunnel Design/Effectiveness in Reducing Air Quality Impacts

The Draft EIS does not fully evaluate whether the Freeway Tunnel Alternative could cause or contribute to localized National Ambient Air Quality Standard (NAAQS) exceedances in the immediate project area, such as near the entrances to the tunnel or in the vicinity of the SR 710/I-10 and I-210/SR 134 interchanges. Furthermore, the Draft EIS and Tunnel Systems Report describe the goals and general design of the tunnel ventilation system and controls, but further information is needed for purposes of ensuring air quality mitigation and evaluating the modeling analysis.

Air Quality Modeling –Presentation of Impacts

The Draft EIS presents quantitative modeling results in Tables 5.8-5.10; however, the Draft EIS doesn't provide any information to the public describing what these modeling results mean in terms of air quality. The Draft EIS does not include predicted concentrations for several of the design variations: (1) Single-Bore Tunnel without Tolls, (2) Single-Bore Tunnel without Tolls, without Trucks, (3) Dual-Bore Tunnel with Tolls, without Trucks and (4) Dual-Bore Tunnel with Tolls with express bus. Further, the modeling results presented in the Draft EIS mischaracterize the full impacts of the project. The results presented in the tables do not appear to include background concentrations combined with the predicted modeled concentrations. Based on EPA's understanding of ambient air quality concentrations within the study area, it appears that the total concentrations would be above the NAAQS for particulate matter smaller than 2.5 micrometers (PM_{2.5}) standards. Presenting the modeled concentrations without background values does not clearly indicate to the public the full impacts from the project.

In addition, there is no information regarding where the impacts of the projects were predicted and why some design variations show higher or lower PM concentrations. For example, it is not clear why the results from the tunnel variations, without trucks, are higher than with trucks. The Draft EIS should clearly present information showing where localized concentrations will both increase and decrease, such as due to the shifting of traffic from existing roadways to the tunnel. The Draft EIS should explain these results so that the public understands the regional air quality impacts of the project.

We appreciate the additional information that Caltrans shared with EPA during our review of the Draft EIS, including preliminary modeled PM_{2.5} concentrations from the build minus no-build alternatives focused on areas with the largest potential concern, such as the tunnel entrances. We encourage Caltrans to provide these additional maps, analyses, and conclusions to the public and decision-makers.

Recommendations:

- Clearly present information showing where localized concentrations will both increase and decrease and explain these results for the public and decision-makers. Include maps with modeled isopleths showing the full (background plus modeled) concentrations for the study

area as well as anticipated changes (future build minus future no-build) in concentrations for 24-hour and annual PM_{2.5} and PM₁₀. In addition to presenting information on the entire study area, include maps that include isopleths targeted to the areas of largest potential impact, such as the tunnel entrances, and provide clear information on the locations of the proposed tunnel and ventilation towers.

- Include more information explaining the differences in modeled concentrations for each of the design variations and why some concentrations are not included
- Please continue to consult with EPA on the emissions and air quality modeling, including the presentation of results for the public and decision-makers.

Air Quality Modeling - Design Assumptions, Modeling Inputs, and Verification of Results

There is not enough information in the Draft EIS for EPA to validate the modeling results. The Draft EIS does not contain maps or figures showing spacing and location of emission sources and tunnel vents, and there are no details regarding how emissions at tunnel entrances and exits were estimated and handled in modeling. It is not clear how fugitive emissions were determined and if centerline miles or VMT were used to predict growth in fugitive PM_{2.5} and PM₁₀ emissions.

The Draft EIS states that the tunnel ventilation tower emissions for the north and south tunnel portals were modeled as point sources, however there is no information provided regarding how these point sources were characterized, such as emissions rate, release height, exit temperature, etc. There is also no information about how the emissions at the tunnel entrances and exits were treated in the modeling. The Supplemental Draft EIS or Final EIS should include information on the tunnel entrances and exits displayed with the modeling outputs (e.g. concentration isopleths), to facilitate evaluation of the modeling treatment and performance in the entrance areas.

The Tunnel Systems Report emphasizes that the primary purpose of the tunnel ventilation system is to reduce the level of harmful gases within the tunnel, such as carbon monoxide (CO) from routine tunnel operations, or smoke from a tunnel fire. The Report also acknowledges an additional goal of “avoid[ing] concentration of noxious gases outside the tunnel at the portal areas.” While maintaining safe air quality levels within the tunnel is critical, we also encourage Caltrans to consider ambient air quality (i.e. air quality outside of the tunnel) as a primary design goal, to further insure that the predicted effectiveness of the air ventilation system and controls are achieved in practice. Furthermore, while the Draft EIS and Tunnel Systems Report appear to only commit to particulate matter controls via an electrostatic precipitator, we note that it is also critical for the ventilation system to capture and control oxides of nitrogen (NO_x), volatile organic carbons (VOCs), and air toxic emissions, due to the project’s location in the air basin with the worst ozone air quality in the U.S.

Recommendations:

- Clarify that ambient air quality is a primary purpose of the tunnel ventilation system, in addition to air quality within the tunnel.
- Commit to implementing tunnel ventilation system controls for particulate matter, CO, NO_x, VOCs, and air toxics.
- Provide additional information regarding how emissions from the tunnel ventilation towers were characterized in AERMOD and the resulting modeled concentrations in the vicinity of the towers for each tunnel variation. In the presentation of modeling results, label the sources of emissions.
- Provide additional information regarding the characterization of emissions leading up to and immediately inside of the tunnel entrances and exits and the resulting modeled concentrations in the nearby vicinity.

- Include calculations used to determine the emissions modeled for each alternative.
- Provide information supporting assumptions on the effectiveness of the tunnel's air ventilation system and the control efficiency of the tunnel ventilation towers. To the extent that similar tunnel ventilation systems and controls are in operation in other locations, provide information on the effectiveness of those systems for capturing and controlling air pollutant emissions.

Air Quality Modeling - Potential Incorrect Use of Volume Emission Source

The Draft EIS states that "The operational vehicle exhaust emissions from roadways were modeled as a line of volume sources. The line source spacing, or separation of the volume sources, was twice the width of each individual volume source." While either area or volume sources can be used to represent roadways, in general, we recommend using area sources rather than volume sources as area sources are easier to characterize correctly. Spacing the volume sources twice the width is incorrect; the volume sources should be one source width apart. The additional modeling output isopleths that Caltrans provided to EPA indicate that the volume sources were potentially treated incorrectly in the modeling.

Recommendations:

- Before a Supplemental Draft EIS or a Final EIS is issued, a PM hot-spot analysis that meets the requirements of EPA's transportation conformity regulations is necessary. Please continue to consult with EPA on the development of this analysis. See additional comments about the PM hot-spot analysis below.
- Provide information in the Supplemental Draft, or Final EIS, on the results of the PM hot-spot analysis. Indicate how the emission sources were modeled graphically. The following link contains examples of how to characterize and model the emission sources: <http://www.epa.gov/otaq/stateresources/documents/hotspot-lessons-learned-trb.pdf>.
- Make AERMOD input and output files available for public review along with these results in the Supplemental Draft or Final EIS.

Construction – Complete Characterization of Construction Impacts

In the Draft EIS, Tables 5.1 – 5.5 indicate that daily construction emissions for the build alternatives increase significantly with the Freeway Tunnel Alternative variations, however a complete characterization of the emissions is not provided. The construction emission tables provided show only the maximum daily emissions in lb/day, but the duration of construction for each alternative is different. Alternatives that take longer to build will produce higher total construction emissions.

Construction of the Freeway Tunnel Alternative would be from 2020-2025. We note that the years 2021 and 2025 are important milestone years for attainment of the 2012 PM_{2.5} standard. Evaluation of whether the area has attained the 2012 PM_{2.5} NAAQS will be based on ambient data from 2019, 2020, and 2021. Minimization and mitigation of emissions impacts from construction will be important to help insure that the area will attain the standard. Compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 and standard construction measures to reduce fugitive emissions should be discussed in the context of what options are appropriate, given the current drought conditions. Additional mitigation should also be considered to reduce NO_x emissions.

Recommendations:

- The duration of construction for each alternative should be incorporated into the tables to show the total construction emissions for each alternative.
- Discuss whether, due to current drought conditions, dust control during construction will occur under additional requirements, such as use of recycled water, or use of non-water dust

palliative compounds. If water control methods aren't proposed, then discuss the relative effectiveness of other compounds in dust mitigation.

- Include additional mitigation measures in Chapter 6, including the following as applicable:
 - Meet and ideally go beyond CARB requirements for in-use diesel engines and equipment, particularly for non-road construction fleets.
 - Insure that all construction equipment meets or exceeds equivalent emissions performance to that of U.S. EPA Tier 4 standards for non-road engines.
 - Implement a strong anti-idling policy at *all* construction sites for this project.
 - Provide training for contractors and their employees on air quality impacts from construction activities and potential health risks to nearby receptors, and ways to reduce emissions (e.g., no idling, using PM filters, using alternative fuels, etc.).
 - Solicit construction bids that include use of energy and fuel-efficient fleets and zero-emission technologies.
 - Use lighting systems that are energy efficient, such as LED technology.
 - Use the minimum feasible amount of greenhouse gas (GHG)-emitting construction materials.
 - Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production.
 - Use lighter-colored pavement where feasible.
 - Recycle construction debris to the maximum extent feasible.
 - Plant shade trees in or near construction projects where feasible.

Tunnel Air Quality

Section 3.13 of the Draft EIS does not address air quality in the tunnel. However, the Tunnel Systems Report provides extensive information about the tunnel ventilation system, tunnel air quality, and standards for the ventilation system. Page 38 of the Tunnel Systems Report states, "When CO emissions are controlled, other air contaminants are also maintained at acceptable levels." More detail should be provided on the other air contaminants in the tunnel and what is defined as acceptable levels, including any relevant ventilation or air quality standards.

Recommendation:

- Section 3.13 should be revised to include a description of air quality in the tunnel, including relevant ventilation and air quality standards and predicted concentrations of CO, NO_x, air toxics, and PM_{2.5}.

Recommendations for Interagency Completion of Project-Level Transportation Conformity Analysis and Associated Consultation

Discussion of Conformity

As the Draft EIS states, the Freeway Tunnel Alternative with either the Single or Dual-Bore design variations were determined to be projects of air quality concern (POAQC) by the Southern California Association of Government's Transportation Conformity Working Group (TCWG), meaning they require a PM hot-spot analysis. The language in the Draft EIS implies that this analysis has not yet been conducted, yet also seems to indicate that conformity was completed and demonstrated by the modeling results included in the Draft EIS: (see italic text below) and in several other sections of the document.

If the Freeway Tunnel Alternative with either the single-bore or dual-bore design variation is identified as the preferred alternative, a quantitative PM hot-spot analysis *will be conducted* to demonstrate that the project would not delay attainment of or worsen existing violation of or cause an exceedance of the PM_{2.5} or PM₁₀ national ambient air quality standards and meets

conformity requirements. *In addition to the demonstration of conformity requirement, PM_{2.5} and PM₁₀, 24-hour PM_{2.5}, annual PM_{2.5}, and 24-hour PM₁₀ concentration values were calculated* along the existing and proposed roadways within the project area. These values were calculated based on the EPA Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas (EPA Guidance November 2013).

Since this is a major new transportation facility located in an area that is designated as nonattainment for multiple ozone and PM_{2.5} standards as well as maintenance for CO and PM₁₀, it is critically important that impacts to air quality be accurately analyzed, disclosed, and reduced as much as possible. As discussed, the SCAG TCWG has already determined that there are multiple project design variations that have been determined to be POAQC's. However, despite the referenced section of the Draft EIS included above, it has not yet been shown that these design variations meet the Clean Air Act requirements for transportation projects in PM nonattainment areas. Furthermore, the results presented in the Draft EIS are not presented for all receptors, included only the contribution from the project, and do not demonstrate that conformity was met.

Completion of PM_{2.5}/PM₁₀ Hot Spot Conformity Analysis We understand that Caltrans has just started coordinating with the TCWG to address this issue by sharing a modeling protocol for the project. EPA's quantitative PM hot-spot guidance describes a series of analytical and modeling steps that a project sponsor can follow to ensure that the project meets the statutory and regulatory conformity requirements. First, impacts of the project should be modeled, combined with background concentrations as described in Section 9 of EPA's guidance, and compared to the relevant NAAQS. A hot-spot analysis for this project should consider traffic impacts not only in the tunnel, but also on facilities outside the tunnel, including at the tunnel approaches. The information in Appendix D indicates that some of the largest truck traffic increases are north or south of the tunnel portals, regardless of design variation. If the design values for the build scenario are less than or equal to the relevant NAAQS at all receptors, the project meets the conformity rule's hot spot requirements and no further modeling is needed.

If the build scenario results in design values greater than the NAAQS, then the no-build scenario will also need to be modeled. The modeling results of the build and no-build scenarios should be combined with background concentrations as appropriate. If the design values for the build scenario are less than or equal to the design values for the no-build scenario on a receptor by receptor basis, then the project meets the conformity rule's hot spot requirements.

Once the SCAG TCWG has concurred on the analysis, the quantitative analysis is typically considered as being acceptable for inclusion in the NEPA document.

Recommendations:

- The Supplemental Draft EIS or Final EIS should: 1) state that the conformity analysis is completed and concurred upon by the SCAG TCWG; and 2) accurately assess and disclose whether the proposed tunnel design variations will cause or contribute to any new localized violation of the PM NAAQS.
- Include predicted concentrations for *all* proposed Freeway Tunnel Alternative design variations, including background concentrations at all receptor locations near the tunnel facility.
- If the PM Hot-Spot Analysis is not completed upon publishing a Supplemental Draft EIS or Final EIS, a status of the analysis should be provided.

Construction Emissions Considerations for Conformity

Section 93.123(c)(5) of the conformity rule states that construction-related PM emissions due to a particular project are not required to be included in a hot-spot analysis, if such emissions are considered temporary (i.e., emissions which occur only during the construction phase and last five years or less at any individual site). The Draft EIS states that construction is predicted to last 57-59 months for the Freeway Tunnel Alternative, which is just short of the 5-year limit for including impacts in conformity. Considering that a 1-3 month delay would push the project period beyond 5 years, EPA encourages Caltrans to consider the potential need for construction-related emissions to be addressed in the conformity analysis.

Recommendations:

- In light of the need to include construction emissions in conformity-related analyses if the construction window is in excess of 60 months, EPA recommends that Caltrans provides more information on construction phasing.
- Confirm that there is no likelihood of construction delay. For example, include a schedule or timeline for various construction phases, and a description of how time estimates for each phase were developed. Discuss whether any potential delays have already been accounted for in this timeline.

Tolling

The Draft EIS does not include an equity assessment of the toll lanes included in the tolled variations of the Freeway Tunnel Alternative. In considering the implementation of high-occupancy/toll (HOT) lanes, there are nearby examples where analyses were completed in order to insure that a new toll system is implemented with awareness of possible disproportionate effects. For example, on the I-10 and I-15 corridors, the San Bernardino Association of Governments conducted an equity assessment to determine if the proposed I-10 and I-15 HOT lanes would benefit or adversely affect low-income travelers. For the impacts that were considered adverse, the equity assessment recommended measures to address the identified impacts. Metro also conducted an equity assessment to address concerns about fairness to low-income residents with regard to the proposed HOT lane on the I-5 North corridor.

The Draft EIS is also lacking information on how revenue from the tolls would be used, which could be helpful in describing equitable implementation of a tolling program. The Freeway Tunnel Alternative is included in the Southern California Association of Governments' regional transportation plan (RTP) and the tolled operational variation of the dual bore Freeway Tunnel Alternative is consistent with the scope in the RTP. Forecasted revenues in the RTP's financial plan include toll revenues from the proposed freeway tunnel.

Recommendations:

- If a tolled variation of the Freeway Tunnel Alternative is chosen as the preferred alternative, Caltrans should conduct an equity assessment of the toll lanes to better inform equitable implementation of future tolling. Alternatively, if the equity issues related to the I-10, I-15 and I-5 HOT lanes are similar enough to what is proposed for the Freeway Tunnel Alternative, then the recommendations from the previous equity assessments could be characterized and discussed within the context of this project.
- Describe the range of additional services or improvements that would be funded by possible tolling revenues, including who would benefit from those services or improvements.

Health Effects

Health Effects - Mobile Source Air Toxics During Construction

The Air Quality Assessment Report does not appear to include the quantification of temporarily elevated MSATs during the construction period. While toxic air contaminants are mentioned in the introductory paragraph, they are not mentioned throughout the rest of the section. TACs, and particularly diesel PM, should be mentioned when discussing the pollutants generated by heavy trucks and construction equipment.

Recommendations:

- Reference MSATs (or TACs) as appropriate. For example, in the paragraph that begins, “Site preparation and construction...,” the following edit should be made: “If not properly controlled, these activities would temporarily generate PM₁₀, PM_{2.5}, ~~and small amounts of~~ as well as CO, SO₂, NO_x, VOCs, *and TACs, including diesel particulate matter.*” Alternatively, clarify how it was determined that only small amounts of these pollutants would be emitted.
- Include TAC emissions, including diesel PM, in the analysis of construction emissions. Report results along with the other pollutants in Tables 5.1-5.5.
- Discuss TACs, including diesel PM, in the analysis of long-term regional emissions.

EPA recommends removing “Qualitative” from the title of Section 5.4 since there is a quantitative estimation of emissions in this section. However, the quantitative estimation of MSAT emission impacts during the construction phase of each of the build alternatives (Section 5.4.4)) is not presented. The short-term criteria pollutant impacts analysis presented in Section 5.1 (and in Tables 5.1 – 5.5) indicates that concentrations of criteria pollutants in the study area would increase by a significant amount, which suggests that MSAT emissions in these areas would increase as well. An expansion of the existing discussion, by including MSATs in the scope of short-term impacts analysis, would inform the public and decision-makers about possible location-specific increases in MSAT emissions.

Recommendations:

- EPA recommends that MSATs be included in the discussion of short-term impacts related to the construction of each build alternative.
- Specifically, discuss what impacts receptors would experience directly adjacent to the construction sites and how this compares with impacts they may experience currently, in the absence of an adjacent high-intensity construction project. This type of analysis is especially relevant to potential environmental justice communities adjacent to the build alternatives and in determining locations for prioritizing mitigation.

Health Effects - Mobile Source Air Toxics During Operation

Regarding long-term air quality impacts, page 5-29 of the Draft EIS states that MSAT emissions are estimated to decline by as much as 73 percent in the study area due to existing vehicle and fuel regulations coupled with fleet turnover (and not due to the build alternatives). Despite the fact that, as stated in the Draft EIS, with each build alternative, “regionwide MSAT levels [would be] substantially lower than they are today,” there would be increases in localized MSAT emissions in each of the build alternatives relative to the no build alternative.

Recommendation:

- Clarify where increases in localized MSAT emissions would result from the build alternatives.

As stated above with regard to decreases in MSATs over time due to vehicle and fuel regulations and fleet turnover, the Health Risk Assessment states that the no build and build alternatives would cause a net decrease in cancer risks compared to 2012 existing conditions. Chapter 4.2.3 is also misleading regarding its conclusions that the build alternatives would “cause” a net decrease in cancer risks impacts. This statement should be rephrased, as discussed above. As demonstrated in the air quality analysis, there would be increases in localized MSAT emissions in each of the build alternatives relative to the no build alternative. Furthermore, in the Health Risk Assessment (see Table 3-4), maximum risks from the Freeway Tunnel Alternative have the potential to be greater than 100-in-a-million compared to the no build alternative. The Supplemental Draft EIS or Final EIS should clarify whether or not the build alternatives truly yield less than significant impacts in light of the information presented.

Recommendation:

- EPA recommends comparing the build alternatives and the no build alternative to determine the incremental impact from the alternatives themselves.
- Text should be revised to state that the build alternatives would not cause the decrease in cancer risks. EPA recommends rephrasing to say that “Cancer risks in both the no build and build alternatives decrease compared to 2012 existing conditions due to existing control requirements and fleet turnover.”

Health Effects – Children’s Health

Executive Order 13045 on Children’s Health and Safety directs each Federal agency, to the extent permitted by law, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and to ensure that its policies, programs, activities, and standards address these risks. Analysis and disclosure of these potential effects under NEPA is recommended because some physiological and behavioral traits of children render them more susceptible and vulnerable than adults to environmental health and safety risks. Although the Draft EIS identifies communities and schools located near the proposed project area, the Draft EIS does not clearly describe the potential direct, indirect, and cumulative impacts of the project on children’s health.

Recommendations:

- Evaluate the potential direct, indirect, and cumulative health impacts of the construction and operation of the various project alternatives on children’s health. Obtain and discuss relevant health data (e.g., asthma data) for children living near the proposed project area, if available. The analysis may consider the following:
 - Potential respiratory impacts, including asthma, from air pollutant emissions and generation of fugitive dust;
 - Potential noise impacts to health and learning, especially in areas where the alternatives are located near homes, schools, childcare centers, and parks; and
 - Potential impacts from the use of chemicals, such as dust suppressants, and hazardous materials to children living near the proposed project areas.
- Further evaluate the proposed project alternatives in order to compare potential impacts to children’s health. Clearly identify the project alternatives that have the least impact to children, as well as those alternatives that have the least impact on areas already significantly impacted by existing air pollution, high disease rates, and indicators of social vulnerability.
- Identify mitigation measures to reduce impacts from the proposed project’s construction and operation to schools and child care centers near the proposed project area, including measures identified in the voluntary EPA School Siting Guidelines (<http://www.epa.gov/schools/guidelinestools/siting/>), and voluntary EPA Guidelines for States: Development and Implementation of a School Environmental Health Program

(<http://www.epa.gov/schools/guidelinestools/ehguide/>). Engage local school districts, child care providers, and others to discuss mitigation measures.

On March 6, 2015, California's Office of Environmental Health Hazard Assessment (OEHHA) adopted a new "Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments," which can be found here: http://oehha.ca.gov/air/hot_spots/hotspots2015.html. The guidance was updated to reflect advances in science which have shown that early-life exposures to air toxics contribute to an increased lifetime risk of developing cancer or other adverse health effects, compared to exposures that occur in adulthood. Children are typically more sensitive than adults to chemicals and this is true of air toxics. Children's defenses are not as developed, they breathe more air and eat and drink more per pound of body weight, and they are far more active than adults. In addition, they have a longer lifetime ahead of them, during which delayed health effects may become apparent. We also note that the Health Risk Assessment in the Draft EIS does not include an assessment of the risks associated with the construction impacts of each build alternative.

Along with the updated guidance, OEHHA and CARB updated its "Hotspots Analysis Reporting Program" (HARP) to reflect the updates. The latest version of HARP can be downloaded here: <http://www.arb.ca.gov/toxics/harp/harp.htm>.

Recommendations:

- The Health Risk Assessment may incorporate the updates identified above into the health risk analysis.
- The analysis may also be revised to include health impacts during construction.

Integration of Tunnel Alternative with 710 South Corridor Project

Because the proposed project is located directly north of the proposed 710 South Corridor Project and that project has the potential to directly affect the proposed project, the analysis should be more clear regarding the integration of the two projects.

Recommendation:

- If the Freeway Tunnel Alternative is selected as the preferred alternative, discuss how this project will integrate with the proposed I-710 South Corridor Project. For example, discuss how infrastructure to support zero emissions vehicles, which is being discussed for I-710 South, could be integrated into this project.

II. Light Rail (LRT) Alternative Comments

Property Acquisition and Business Displacement

EPA notes that the LRT Alternative will result in a large amount of property acquisitions. The Draft EIS states that because the LRT Alternative would result in a minimal number of nonresidential displacements, it would not adversely affect the character or cohesion of most of the communities in which the project would be located. It also states that the LRT Alternative would not result in permanent adverse effects related to relocations and real property acquisitions.

Table 3.3.6 indicates that Property Acquisitions Required for the LRT Alternative would result in the displacement of 73 businesses and 645 employees. The Draft EIS states that the LRT Alternative would result in the displacement of 15 neighborhood-oriented businesses in the community of East Los Angeles, adversely affecting community character and cohesion, and disrupting the social fabric of the community, due to the lack of relocation opportunities in the immediate vicinity and the high percentage of transit-dependent residents in the area. However, the Draft EIS concludes that most of the business

displacements in other cities (Monterey Park, Pasadena, South Pasadena) “would not disrupt the social fabric of the communities” due to the nonessential nature of businesses or other businesses offering the same services in the vicinity. EPA has concerns about the displacements that would result from construction of the LRT Alternative in all of the communities discussed. These displacements would likely adversely impact both businesses and customers as relationships likely exist between neighboring businesses and neighboring residents. Regardless of the nature of the services, the displacement of many businesses in these communities could adversely affect community character and cohesion and negatively impact businesses that would have to relocate.

Recommendations:

- EPA recommends that Caltrans consider a more comprehensive analysis of community character and cohesion that includes other impacts, including visual, noise, and transportation, including the impacts of haul trucks during construction.
- If the LRT Alternative is chosen as the preferred alternative, additional efforts should be made to avoid and minimize property acquisition and business displacement. We encourage Caltrans to work with the local communities to encourage transit oriented development that could accommodate displaced businesses.
- The Final EIS should include information about whether partial acquisitions of property would impact the operations of businesses that exist on those properties, including information from business owners.

The Draft EIS states that the southern portion of the LRT Alternative is elevated due to the difficulty of getting a tunnel boring machine in to the area and the necessity of excavating a hill if the southern portion were to be tunneled. Due to the significant impacts to properties that would result from the elevated section of the LRT, if LRT is chosen as the preferred alternative, Caltrans should describe the other LRT alternatives that were considered and why they were eliminated from further study.

Recommendation:

- If the LRT Alternative is chosen as the preferred alternative, include a discussion in the Final EIS of the other LRT alternatives that were considered and why they were eliminated from further study, including quantitative information about what impacts led to those alternatives being eliminated.

III. Other Comments

Transportation Impacts

The Draft EIS states that in 2035, the TSM/TDM, BRT, and LRT Alternatives would all result in minor increases in AM and PM peak-hour vehicles miles traveled (VMT) in the project study area. The Freeway Tunnel Alternative single-bore variation would result in a 1 percent increase in combined AM and PM peak-period VMT and the dual-bore variation would result in a 2 percent increase. The Draft EIS states that by shifting trips to freeways, the Freeway Tunnel Alternative would divert VMT from local arterials; however, the Draft EIS does not quantify the amount of VMT that would be shifted from local arterials to the Freeway Tunnel Alternatives in the Executive Summary and other summary statements. Tables 3.5.6 and 3.5.11 include daily volumes of vehicles that would travel on arterials and freeways and other quantitative information about travel on arterials. This information should be summarized in the text conclusions for increased clarity for the public.

The transportation section also does not include information about annual average daily traffic on individual segments of freeway and arterials in the study area. This information is important to determine whether certain areas of the study area, for instance the areas where the new freeway

alignment would connect to the existing freeway under the Freeway Tunnel Alternative, would experience significant increases in traffic and resulting air quality and noise impacts.

Recommendations:

- The Final EIS Executive Summary and other summary text should include a discussion, including percentages and other quantitative data, on how much traffic would be diverted from local arterials to the Freeway Tunnel Alternative.
- The Final EIS should include information about annual average daily traffic on individual segments of freeway and arterials in the study area, including which segments would experience increases in traffic and potential impacts resulting from that traffic.

Community Impacts Along Haul Routes

The Draft EIS states that the Freeway Tunnel Alternative would result in between 380 (single-bore variation) and 620 (dual-bore variation) haul trips per day during excavation, to transport excavated soil to the proposed disposal sites, two former rock quarries in Irwindale. The Draft EIS does not, however, appear to quantify the number of haul trips that would be required under the LRT Alternative. Tunnel boring operations, and subsequent haul trips, could occur 24 hours a day, 7 days a week. EPA is concerned that this amount of haul trips would have adverse impacts on communities near the disposal sites. Although the routes to the disposal sites would primarily run along freeways, EPA is concerned about the segments that run along local streets, and about traffic and community impacts in general along the haul routes.

Recommendation:

- If the LRT or Freeway Tunnel Alternatives are chosen as the preferred alternative, Caltrans should include a discussion in the Final EIS of the land uses on the local streets near the proposed disposal sites. The discussion should analyze potential impacts to residents and businesses in those areas and commit to mitigation measures for noise, air, traffic, and other potential impacts.

Environmental Justice Impacts

The Draft EIS states that no environmental justice (EJ) impacts were identified with any of the alternatives. Chapter 7 of the Community Impact Assessment contains maps which show each of the alternatives overlaid on (1) Racial Minority Population; (2) Hispanic/Latino Population; (3) Low Income Population; and (4) Census Tracts with One or More Environmental Justice Population Characteristics. These maps are very helpful in understanding potential impacts to the EJ communities. The local communities may be concerned about the location of the tunnel vents and the haul routes (rail and truck) for the tunnel bore material. Therefore, EPA recommends that these features also be indicated on the EJ maps for the LRT or Freeway Tunnel Alternative. As discussed above, the Freeway Tunnel Alternative with the dual-bore design variation would result in approximately 620 haul trips per day. Any EJ communities and/or sensitive populations located along the haul route could be impacted by the increased truck traffic.

Recommendations:

- Include maps in the EJ section of the Final EIS that show the preferred alternative overlaid on the various data included in the Community Impact Assessment. If the Freeway Tunnel Alternative is chosen, include the location of tunnel vents and haul routes on the maps.
- If the LRT Alternative is chosen as the preferred alternative, the Final EIS should also include a map in the EJ section of Chapter 3.3 that overlays EJ communities with proposed property acquisitions and haul routes.

- Any potential impacts to these communities should be discussed and mitigated, especially if there are any sensitive receptors impacted, such as schools, child care centers, or senior centers.

Dewatering During Tunnel Construction

The Draft EIS states that temporary dewatering will be required during construction of the LRT and Freeway Tunnel Alternatives. It states that the Los Angeles Regional Water Quality Control Board requires a permit for discharging wastes to surface waters from activities involving groundwater extraction. Order No. R4-2013-0095 (NPDES No. CAG994004) covers treated or untreated groundwater generated from permanent or temporary dewatering operations or other appropriate wastewater discharge not specifically covered in other general National Pollutant Discharge Elimination System (NPDES) permits in the Los Angeles region.

To be eligible for coverage under this order, a discharger must:

- Demonstrate that pollutant concentrations in the discharge shall not cause violation of any applicable water quality objective for the receiving waters, including discharge prohibitions;
- Demonstrate that the discharge shall not exceed, or have the reasonable potential to exceed, the applicable water quality objectives/criteria for the receiving waters; and
- Conduct water quality screening of a representative sample of the discharge to prove that a reasonable potential for discharge of toxics does not exist.

The Draft EIS states that the soil conditioners that may be injected into the ground at the face of the excavation would be nontoxic and biodegradable, and therefore would not adversely impact groundwater quality. Groundwater monitoring will be performed routinely during tunnel excavation to ensure that the activities are not affecting groundwater levels and quality.

The Draft EIS states that the concrete lining of the LRT and Freeway Tunnel Alternatives would be designed and constructed to be watertight and that after excavation the space between the outside of the tunnel lining and the soil is typically grouted to prevent groundwater flow along the tunnel bores. The Draft EIS states that no permanent dewatering would be required. Because groundwater basins in the area are already impaired by VOCs, nitrates, and other contaminants, it is critical that Caltrans insure no pollutants will enter groundwater during construction and operation of the project.

Recommendations:

- The Final EIS should discuss whether Caltrans/Metro have submitted a notice of intent (NOI) to be covered under the permit and how Caltrans will fulfill the requirements of the above Order (R4-2013-0095 (NPDES No. CAG994004), given the existing impairment of the local groundwater basins.
- The Final EIS should discuss how much dewatering is expected (duration or amount), whether the groundwater will be reused or re-injected, and whether there are any additional requirements on dewatering due to the existing statewide drought.
- Clearly identify what actions will be taken if groundwater monitoring indicates groundwater levels and/or quality are impacted during tunnel excavation.

Soil Disposal During Tunnel Construction

The Draft EIS states that the “excavated soil would be disposed of at the Manning and Olive Pits in the City of Irwindale. These pits are former rock quarries that have been previously environmentally cleared and licensed to accept clean soil from construction projects.” However, no detail is provided about the environmental clearance. Page 2-53 states that “The Manning Pit is accessible by both rail and truck.”

However, no additional information is provided about whether rail or trucks will be used for hauling bore material to the Manning Pit, or the potential environmental impacts of rail versus trucks.

Recommendations:

- The Final EIS should provide detailed information on the environmental clearance that has been completed for the Manning and Olive Pits in the City of Irwindale, including whether any additional permits will be required for soil disposal resulting from this project.
- As these sites have been licensed to accept clean soil, the Final EIS should discuss alternative disposal sites for soil that is found to be contaminated, and the timing and haul routes for that disposal, if necessary.
- The Final EIS should also discuss potential environmental impacts associated with hauling excavated soil by rail versus truck, and discuss how the decision will be made about whether rail or trucks are used.

Noise and Vibration Impacts

The Draft EIS discusses the locations of receptors that would experience noise impacts due to the various alternatives. It also discusses which locations were considered for noise abatement, and where noise barriers are considered reasonable and feasible, according to characteristics of the sites and cost considerations. We note that many of the noise barrier locations considered feasible were not found to be reasonable based on cost considerations. EPA encourages the consideration of noise barriers and other mitigation of noise impacts in areas of sensitive receptors, and in particular in areas of sensitive receptors located in environmental justice communities. The Cumulative Impact section discusses projects that have the potential to contribute to cumulative noise impacts. Again, we encourage mitigation of noise impacts in particular in areas that would experience cumulative noise impacts from this project and other projects.

With regard to temporary impacts, EPA is concerned about potential noise impacts along the haul routes during construction and vibration impacts from tunneling. The Draft EIS considers a 24-hour operation, and the resulting number of trucks per hour (30 trucks). The Final EIS should discuss whether adverse noise impacts would occur if a 24 hour operation does not occur and there were more trucks per hour.

Recommendations:

- EPA recommends that Caltrans include noise barriers and other mitigation of noise and vibration impacts in areas of sensitive receptors, and in particular in areas of sensitive receptors located in environmental justice communities or in areas that would experience cumulative noise impacts. We encourage mitigation of both permanent impacts from operation of the project alternative, and temporary impacts from construction.
- Include an analysis in the Final EIS of potential noise impacts resulting from different construction operations, including a less than 24-hour operation, which would result in more trucks per hour on roads and increased noise levels. If adverse impacts were to occur under those conditions, we encourage Caltrans to provide mitigation for those impacts.

Wetlands and Water Quality

Wetlands and Waters of the US

The Draft EIS states that while the total area of wetland and nonwetland areas meeting the criteria for US Army Corps of Engineers (USACE) jurisdiction in the Biological Study Area is approximately 4.8 acres (0.4 acre of wetlands and 4.4 acres of nonwetland waters of the US), potential impacts are much less, with the highest impacts being 0.5 acre of permanent and 0.2 acre temporary nonwetland water impacts anticipated from the dual-bore design variation of the Freeway Tunnel Alternative. The Draft

EIS also states that the alternatives would not permanently alter the values and functions of the waters in the area, which primarily function as conveyance of urban runoff and stormwater flows. EPA appreciates that, as stated in the Draft EIS, the Freeway Tunnel Alternative variations were refined during design development to avoid and minimize impacts to wetlands and other waters in the Laguna Channel.

Recommendation:

- Once a preferred alternative is selected, Caltrans should coordinate with the USACE to verify the jurisdictional delineation of wetlands and impacts in the study area, prior to publication of the Final EIS. Caltrans should also coordinate with USACE and EPA to determine appropriate mitigation for wetland impacts.

Water Quality

The Draft EIS states that best management practices would treat widely varying percentages of newly created or replaced impervious surfaces under the various alternatives.

Recommendation:

- Include a discussion in the Final EIS of the percentage of impervious surface that will be treated for the preferred alternative and how that fulfills local permit requirements.

Climate Change

The Draft EIS states that neither EPA nor the Federal Highway Administration (FHWA) have issued guidance or methods to conduct project-level greenhouse gas (GHG) analysis; however, the Council on Environmental Quality released revised draft guidance in December 2014 that describes how Federal departments and agencies should consider the effects of GHG emissions and climate change in their NEPA reviews. EPA recommends that Caltrans review that guidance to see whether it can be used to help outline the framework for its analysis of these issues. EPA appreciates the quantitative analysis included in the CEQA Evaluation chapter of the Draft EIS and encourages Caltrans to include this information as a part of the NEPA review. We support Caltrans' and Metro's efforts to reduce energy consumption and GHG emissions. As Caltrans continues to assess the risks to transportation facilities from climate change effects, we encourage Caltrans to adapt the design standards of this project to mitigate any effects.

Recommendations:

- We believe the Council on Environmental Quality's December 2014 guidance discussed above outlines a reasonable approach, and we recommend that Caltrans use that draft guidance to help outline the framework for its analysis of these issues.
- EPA encourages Caltrans to include the information in the CEQA Evaluation chapter as a part of the NEPA review.
- EPA encourages Caltrans to adapt the design standards of this project to mitigate climate change effects as feasible.

Other Items: Please address the following in the Final EIS.

Monitored Air Quality. The Draft EIS contains information regarding monitoring stations and air quality trends in the study area, however it is not clear in the document where the stations are located with respect to the new transportation facilities.

Recommendation:

- The Final EIS should include a map showing the local air quality monitoring stations discussed (i.e., the South Wilson Avenue Pasadena Station, the North Main Street Los Angeles Station, and any other stations located within the project study area) and their relationship to the project location.

Air Quality – Identification of Sensitive Receptors. The Draft EIS includes one paragraph describing where sensitive receptors are expected to occur in the study area but does not include any specifics on where those receptors are located.

Recommendation:

- The Final EIS should include a map showing sensitive receptors.

Air Quality Management Plan. The Draft EIS discusses the 2012 AQMP but not the most recent update or state or federal actions on that plan.

Recommendation:

- The Final EIS should update the information to include ARB adoption and EPA actions on the 2012 AQMP.

CO Screening Analysis. The flow chart was used incorrectly in the Level 4 portion of the analysis.

Recommendation:

- Since the study area is a CO Maintenance area, the lower part of the flow chart (levels 3 and 4) should be used. Please reapply the flow chart correctly and update the CO air quality analysis in the Final EIS.

Transportation Conformity. The Draft EIS indicates that SO₂ is a transportation-related criteria pollutant, which is not correct. The document also references national rulemakings regarding the transportation conformity rule, and ozone and particulate standard that occurred in 2003-2004. Multiple major federal rulemakings that have occurred since this time. Overall the discussion of EPA and ARB standards on pages 2-9 and 2-10 appears to conflate conformity and NAAQS updates.

Recommendation:

- The Final EIS should correct the text to indicate that SO₂ and lead are not required to be included in transportation conformity analyses. In addition, please update the document to include the most recent updates to federal and state NAAQS and the most recent amendments to the transportation conformity rule. Information on the conformity regulations can be found here: <http://www.epa.gov/otaq/stateresources/transconf/conf-regs.htm>. The latest NAAQS updates can be found here: <http://www.epa.gov/air/criteria.html>.